



Streamlining Seat Certification

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Background Congressional Bill / Law

HR1000 / PL 106-181



"SEC. 757. STREAMLINING SEAT AND RESTRAINT SYSTEM CERTIFICATION PROCESS AND DYNAMIC TESTING REQUIREMENTS.

- (a) WORKING GROUPS.- Not later than 3 months after the date of enactment of this Act, the Administrator shall form a working group comprised of both government and industry representatives to make recommendations for streamlining the seat and restraint system certification process and the 16g dynamic testing requirements under part 25 of title 14, Code of Federal Regulations, to focus on reducing both the cost and the length of time associated with certification of aircraft seats and restraints.
- (b) REPORT. - Not later than 1 year after the date of enactment of this Act, the Administrator shall transmit to Congress a report on the findings of the working group."

- Chartered by Act of Congress; is now Public Law - PL 106-181
- Purpose is to streamline seat and restraint system certification
- Target 50% reduction in cost and flow time
- FAA / Industry working together over past 2½ years to develop and implement '4-Part Plan'

FAA and Industry '4-Part Plan'

1. Conduct a critical review of current seat certification policies to ensure that they are within the bounds of the regulations, and establish a system to actively manage compliance policy.
2. Re-establish the Seat TSO as a valid design approval.
3. Utilize suppliers' local authorities for gathering and acceptance of seat certification data.
4. Promote acceptance of alternate methods of compliance to reduce cost and/or enhance safety through application of new technologies.



Streamlining Seats and Restraint System Certification

FEBRUARY 22ND, 2001

FAA and Industry 4-Part Plan



Streamlining Seat Certification

Objectives

- Uphold safety
- Reduce cost
- Reduce flow time

1. Review and Actively Manage Compliance Policy

Conduct a critical review of current seat certification regulation and policies and establish a system to actively manage compliance policy.

2. Re-establish Seat TSO

Re-establish the Seat TSO as a design approval.

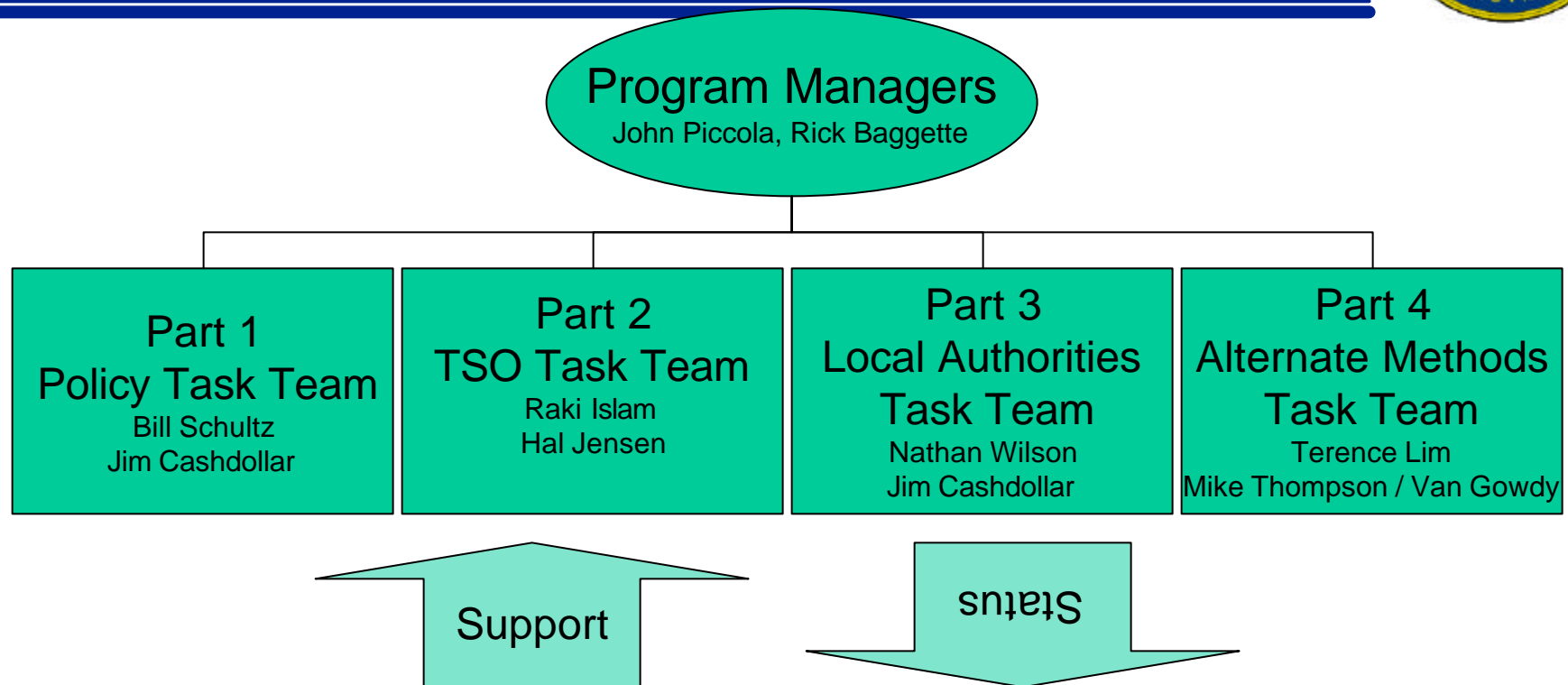
3. Utilization of Local Authorities

Utilize suppliers' local authorities for gathering and acceptance of seat certification data.

4. Promote Alternate Methods of Compliance

Promote acceptance of analytical methods and component test methods to reduce the need for full-scale testing.

Streamlining Seat Certification Leadership Team



Charter Team

Bill Schultz (Chairman) – GAMA, Ali Bahrami (Co-Chairman) - FAA, Dave Hempe – FAA AIR-100, Russ Benson / Tim Holey – Boeing, Vahe Bilezikjian – B/E Aero, Frank Heming – Goodrich Aero, Ronda Ruderman - AFA, Fernon Clark – American Airlines

Part 1 - Actively Manage Compliance Policy



- Conduct a critical review of seat and restraint system certification procedures to ensure that FAA and industry resources are expended on those activities that product the greatest benefit:
 - Conduct a formal audit of certification regulations and policy to ensure that the guidance reflects the intent of the regulations and that it was developed and applied via a public process
 - Take steps to either publicly process guidance that was incorrectly adopted or withdraw such guidance

Part 1 - Actively Manage Compliance Policy



- Underlying Principles for Part 1
 - Policy is within the bounds and intent of regulations
 - Clear policy provides guidance, simplifies compliance determinations, and establishes a level playing field
 - Public input should be gathered during the development of generic policy or guidance
 - Policy needs to be readily accessible both by Industry and seat certifying authorities (FAA RGL)
 - Training needs to be provided to ensure understanding of policy

Part 1 – Actively Manage Compliance Policy



- Finalized Policy and Guidance
 - Offset Armrests
 - IVS Abuse Load Testing
 - Corded Devices
- Policy memos promote streamlining goals
 - Cost reduction
 - Flow time reduction
 - Simplified compliance determinations

Part 1 - Actively Manage Compliance Policy



- In-work Policy and Guidance
 - Means of Compliance for satisfying the HIC requirements for each (a range of) occupant(s)
 - Conducting component level tests to demonstrate compliance with §§ 25.785(b) and (d) [seatback delethalization]
 - Seat mounted literature pockets and stowage compartments
 - Tests for in-arm video monitors (part of AC 25.562-1())

Part 1 - Actively Manage Compliance Policy



- Formal Seat Policy Audit
 - Generally applicable policy is listed on FAA RGL website
 - www.airweb.faa.gov/rgl

Part 1 - Actively Manage Compliance Policy



- In-work Policy and Guidance
 - Advisory Circular (AC) 25.562-1()
 - Methods of compliance for HIC which address a range of occupants, have delayed AC publication

Part 2: Re-establish the seat TSO as a valid design approval



- Recognize the validity of TSO seat approval and the boundaries of that approval.
- Revise TSOs to increase their utility for meeting airworthiness regulations.
 - Updating TSO based on revised industry standards.
- Initiate program to allow the TSO process to account for certain installation issues.

FAA to establish procedures for resolving seat issues between installation and TSO ACOs



- Establish a methodology for reporting seat discrepancies between all stakeholders in the seat certification process.
- Standardize a process for resolving those discrepancies.
- Identifies recurrent discrepancies and leads to resolution of systemic problems.
 - Establish standardized content and industry recommended format for Installation Instructions and Limitations (IIL) for TSO-C127a.

Part 3 – Utilization of Local Authorities



- Utilize seat supplier's local authorities for gathering and acceptance of seat certification data.
- Premise:
 - It's more efficient for a local manufacturer and their authority to oversee data collection activities and conduct supplier oversight.
 - Reduced travel costs.
 - Improves process flow time.

Part 3 – Utilization of Local Authorities



Improve efficiency by eliminating redundant approvals, and by providing accountability and ownership at all levels.

- Domestic

- Utilize Partnership for Safety Plans (PSP) and project specific certification plans (PSCP) to collect certification data.

- International

- BASA/IPA provides framework for reliance on other countries certification systems
- Utilize FCAA capabilities and delegation systems wherever practicable

Part 4: Alternate Methods of Compliance



Objective

- Develop new methods of demonstrating compliance with § 25.562 that will reduce certification cost and streamline seat certification.

Seat streamlining activities for FY03

1. Development and publication of AC 20-146
 - This AC provides a means of demonstrating compliance using computer modeling techniques.
 - The computer models require validation based on dynamic tests.
2. Development of a HIC component test device
 - The device is being developed at CAMI.
 - Industry is participating in its development.
 - The device is intended to streamline seat certification by reducing, to the maximum extent possible, the number of full scale HIC tests required.

HIC Component Test Device



Part 4: Alternate Methods of Compliance



3. Development of a method to allow a surrogate part to be used in lieu of a seat back mounted accessory during blunt trauma tests.
 - Examples of accessories: video monitors, telephones
 - Seat back mounted accessories are typically destroyed during blunt trauma tests.
 - A policy memo will allow surrogate parts (such as an aluminum plate) to be used during testing so that accessories are not destroyed.
4. Development of a method of compliance for replacing seat cushions without conducting full scale dynamic tests.